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REGION 5  
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REPLY TO THE ATTENTION OF

**Sent Via Electronic Mail and by Certified Mail Return Receipt Requested**

**SR-6J**

March 7, 2006

Mr. Douglas A. McWilliams, Esq.  
Squire, Sanders, & Dempsey, L.L.P  
4900 Key Tower  
127 Public Square  
Cleveland, OH 44114-1304

**Re: Response to the Minutes from the February 10, 2006 Conference Call regarding the Final Draft Remedial Investigation/Feasibility Study (RI/FS) Report, Revision 1 (July 2005), Chemical Recovery Systems (CRS), Inc.,**

Dear Mr. McWilliams:

Enclosed please find EPA's comments to call Minutes from February 10, 2006. This letter also approves the meeting minutes once the comments provided by EPA are adopted as a part of the document. Please note that EPA response comments are ***bolded, italicized***, and written immediately after the comment to keep the response in context of the minutes.

Before you submit the RI/FS Report deliverable for approval, please feel free to contact me if you have any questions or need additional clarification to any of the minutes response comments.

Sincerely,

Gwendolyn S. Massenburg  
Remedial Project Manager

Enclosure

cc: Thomas Nash, ORC  
Lawrence Antonelli, Ohio EPA  
Robert Budzilek, Metcalf & Eddy

**Meeting Minutes  
Chemical Recovery Systems, Inc.  
February 10, 2006**

Meeting Attendees:

Gwen Massenburg, U.S. EPA  
Andrew Podowski, U.S. EPA  
Larry Mencin, CRS Site Group Tech Committee Chair  
Peter Gelman, Parsons  
Rick Volpi, Parsons  
Karen Fields, Parsons  
Fan Wang-Cahill, Parsons

A telephone conference call was held on February 10, 2006 at 10:00 am EST to discuss comments provided by the U.S. EPA on the RI/FS report for the Chemical Recovery Systems (CRS) site located in Elyria, Ohio. The comments were provided to the CRS Site Group on February 1, 2006.

At the start of the meeting, it was decided that the comments would be discussed one by one in the order provided by U.S. EPA. Thus, these meeting minutes also follow this order of discussion. Additionally, Peter Gelman clarified at the start of the meeting that the CRS site is situated on a peninsula along the East Branch of the Black River and, in square area, occupies only about 10% of the peninsula. The Englehard Company occupies almost all of the remaining area on the peninsula.

#1 (page 2 of 27) – Conduct quantitative evaluations for beaver since evidence of beaver activity has been noted at the site. Karen Fields stated that the evaluation of the beaver would be included in the revised report; however, exposure parameters for the beaver are not well-defined (i.e., the beaver is not one of the animals included in the Wildlife Exposure Factors Handbook (U.S. EPA, 1993)). Therefore, Ms. Fields suggested that in lieu of developing parameters specifically for the beaver, a muskrat could be used as a surrogate receptor since it is a species included in the Wildlife Exposure Factors Handbook and it is a similar species. It was agreed that a muskrat could be a suitable surrogate species and it was requested by U.S. EPA that the parameters to be used to assess the risk to the muskrat be provided as an attachment to these meeting minutes. Attachment A includes the parameters for the muskrat and the overall approach to be used to assess the risk to this species.

***EPA's response: The use of the muskrat is an acceptable surrogate substitute for the beaver.***

#1 (page 3 of 27) – Data Validation. Rick Volpi stated that the explanation and reference made to the data validation memoranda will be clarified as suggested by U.S. EPA.

#2 (page 5 of 27) – Compare all VOCs detected in soil and groundwater and modeled to the indoor air pathway to screening levels provided in EPA's draft November 2002 guidance. Fan Wang-Cahill stated that the screening for VOCs will be revised as requested by U.S. EPA.

#3 (page 5 and 6 of 27; Section 3.3.1) – Evaluate all chemicals detected above the Region 9 PRGs for tap water in the quantitative risk assessment. Ms. Wang-Cahill stated that it is recognized that some chemicals may be eliminated when MCLs are used for screening chemicals of concern instead of Region 9 PRGs; therefore the data will be re-screened using Region 9 PRGs as requested by U.S. EPA. The MCLs will be used as clean-up criteria only for the groundwater ingestion pathway since some MCLs are technology-based and not risk-based.

***EPA's response: Regarding the MCL statement, the following statement should be used verbatim: MCLs will be used as the criteria to meet federal ARARs for the groundwater pathway. However, many MCLs are technology based and not risk based, which is why MCLs can not be used as the sole basis for clean-up of groundwater. For the Superfund Program, clean-up must be based upon risk.***

#3 (page 5 and 6 of 27; Section 3.3.1) – Chrome VI and site history and Chrome VI speciation. Mr. Volpi stated that Parsons has developed some charts for the CRS site that plot Eh and pH in groundwater. The data show that reducing conditions exist at the site; therefore, chrome is expected to exist as Chrome III and not Chrome VI. Ms. Massenburg stated that this should be made clear in the text of the report as well as referencing the information in an appendix, table, or figure within the report. Larry Mencin stated that the separate memo showing the reducing conditions at the site will be forwarded to U.S. EPA for information purposes. This memo has been included with these minutes as Attachment B.

***EPA's response: EPA has evaluated Attachment B, which is the standard redox graph. In order to make a blanket statement that Cr(III) is the dominant species present in the groundwater, a sample should have been collected and analyzed for Cr(VI), instead of total chromium. Presently, there has not been any data presented in the document that support such a claim. Since a sample was not collected and analyzed for Cr(VI), it would be helpful to present a hard copy of the instrument data that generated the measurements provided in the table for the Phase Diagram for Chromium in the RI Report along with the diagram as an appendix to the RI report. One can only state that in an environment heavy contaminated with VOCs and the with geochemical data collected, the data suggest that the detected chromium is in a reducing environment, which suggest that Cr(III) is the dominant species present at the site.. And for more information, point the reader to the information provided in the January 16, 2006, Chromium in Groundwater Letter.***

#3 (page 5 and 6 of 27; Section 3.3.1) – Quantitatively evaluate the water in the 12" outfall pipe. Ms. Wang-Cahill stated that because there is very little surface water dripping from the pipe (it has been observed to only have a slow flow once during several site visits), the approach taken was to evaluate the soils/sediments underneath the pipe outfall and estimate the exposure via ingestion of, dermal contact with and inhalation of the soils/sediments. Andrew Podowski agreed that as long as the potential exposure source (soils/sediments underneath the dripping outfall pipe) is clearly identified, then addressing the potential exposure to this outfall via underlying soils/sediments is adequate.

#7 (page 7 of 27) – The exposure time for an indoor/outdoor worker should be pro-rated to reflect the time spent indoors and outdoors. Ms. Wang-Cahill stated that she has researched the

amount of time an indoor worker may be outside and found that an indoor worker spends approximately 7.3 hours (average) indoors (Source: US EPA 1997 Exposure Factor Handbook). Ms. Wang-Cahill suggested that the exposure could be pro-rated as 92% indoors (7.3 / 8 hour work day) and 8% outdoors. Mr. Gelman then asked that since Parsons assumed that an indoor worker spends all 8 hours indoors and that is more conservative than pro-rating the worker's exposure, can we just leave the indoor worker exposure as is? Mr. Podowski agreed that the indoor worker exposure evaluation is acceptable as previously presented in the draft RI/FS report.

#8 (page 7 of 27) – Toxicity values for TCE. Ms. Wang-Cahill stated that a comparison will be done using California EPA values versus EPA's Draft values and then discussed in the uncertainty section of the final RI/FS report as requested by U.S. EPA.

#1 (page 8 of 27) – Use the most conservative criteria to screen surface water for human health exposures. Ms. Wang-Cahill stated that the Ohio EPA criteria should be appropriate for screening surface water since they were developed based on the fish ingestion pathway specifically for Ohio water bodies. Region 9 tap water PRGs and National Ambient Water Quality Criteria (NAWQC) for water plus fish ingestion are inappropriate to use at the CRS site since the East Branch of the Black River is not a drinking water source. Mr. Podowski stated that U.S. EPA would like to confer with Ohio EPA concerning this statement before agreeing to this response. Later, near the end of the conference call, this issue was re-addressed and it was agreed by all present that the NAWQC for organism ingestion would be used as the primary screening criteria for surface water. Should a NAWQC for organism ingestion be unavailable, then the Ohio EPA criteria for fish ingestion will be used as a substitute value.

***EPA's response: EPA and Ohio EPA recommend using Ohio AQWC in addition to the NAWQC. Most of the Ohio AQWC are updated annually using the Great Lakes protocol and reflect changes in toxicity values. Furthermore, the Ohio AQWC are more than likely state ARRARs, and will need to be evaluated in the feasibility study, therefore it would be helpful to know if the criteria are met early in the process.***

#1 (page 8 of 27) – The hypothetical resident should include an exposure for a child (6 years) and adult (24 years). Ms. Wang-Cahill explained that since the hypothetical adult resident showed a risk, subsequent calculations for a child were not conducted. Mr. Podowski stated that U.S. EPA did not want separate exposures evaluated for an adult and child, however, that the exposure should be combined for a total of 30 years of exposure - 6 years as a child and 24 years as an adult. Ms. Wang-Cahill stated that the hypothetical exposure for a resident will be age-adjusted to show an exposure for 30 years.

#5 (page 9 of 27) – Use the newer guidance for evaluating the groundwater exposure pathway. Ms. Wang-Cahill stated that the method used is a valid method and is from guidance that is newer than RAGS. Ms. Massenburg stated that she wants it to be clear that the most recent guidance should be used for all exposures not just the dermal guidance. Ms. Wang-Cahill concurred that the most recent guidance will be used for all exposures.

***EPA's response: In order to address this comment EPA needs to know what the newer guidance than RAGS is. EPA's original comment was to use the July 2004 Dermal Guidance. EPA also recommends evaluating VOC quantitatively for both dermal and inhalation exposure, six years for the child; and for the adult six years plus an additional 24 years.***

#9 (page 12 of 27) – Use 120 days for the exposure frequency for a construction worker scenario. Ms. Wang-Cahill explained that 90 days were used for the construction worker scenario based on site-specific information. Mr. Podowski stated that it is EPA policy to use 120 days so it was agreed that 120 days would be used in the revised report.

#11 (page 13 of 27) – Use surrogate toxicity values for chemicals that are lacking toxicity values. Ms. Wang-Cahill stated that surrogates were not used in the risk assessment since there could be lots of surrogates that might be appropriate for one compound. Ms. Wang-Cahill asked that EPA provide a list of surrogates and the risk assessment would be revised accordingly. Mr. Podowski stated that surrogates need to be used in order to not underestimate the risk and he would work on providing a list of surrogates to use. Mr. Gelman then inquired as to how long it would take to provide the surrogate list as the deadline for the revised RI/FS is near. Mr. Podowski replied that a list could take a while since some research would need to be done. Ms. Wang-Cahill then suggested that she would provide a list of proposed surrogates to Mr. Podowski to review on February 13, 2006, to which all agreed. The list included as Attachment C to these minutes was provided electronically to Mr. Podowski and Ms. Massenburg on Feb 13, 2006.

***EPA's response: The suggested surrogate toxicity values are acceptable, for example the surrogates suggested for PAHs in Table 15, Part D, Table 6.1 are accurate, and the surrogates for PCBs in the same table are acceptable too. The use of Aroclor 1254 Oral RfD of 2E-5 to similar isomers is acceptable in Table 14. However, it should be noted that the R9 PRG Table recommends the use of the same value as an Inhalation RfD for Aroclor 1254, as a surrogate. It is missing from Table 14 and it should be added.***

#14 (page 13 of 27) – Use mixed soil (0-10') for both residential and construction worker scenarios. Ms. Wang-Cahill explained that the mixed soil is more conservative than using just surface soil (0-1'). Mr. Podowski stated that it is not clear in the tables and text as to what was used, specifically, in reference to the upper bound values that were shown. Ms. Wang-Cahill stated that a footnote would be added to the tables and it was agreed that this would be an acceptable clarification.

#8 (page 15 of 27) – It should be determined whether or not PAHs are site related by doing statistical background comparisons. Ms. Fields explained that due to the site's location, appropriate background samples cannot be collected from the site area. Mr. Mencin also clarified that due to the site's unique geography, there are no offsite areas with similar conditions that would provide appropriate true background samples. Therefore, we cannot determine if the PAHs detected are site related or part of normal background conditions. For the purposes of completing the risk assessment only, we offered to conservatively assume that the detections of PAHs could be site-related. Mr. Podowski agreed that it was acceptable to conservatively assume that PAHs are site-related since appropriate background samples cannot be collected

from the site. Per counsel, the CRS Site Group reserves any and all rights to challenge this assumption in the future without limitation as needed to protect its interests.

#2 (page 16 of 27) – The statement regarding the protectiveness of human health measures for ecological receptors is un-related to ecological risk assessment. Ms. Fields stated that this sentence would be deleted.

#3 (page 17 of 27) – Conduct statistical comparisons to prove whether or not PAHs may be site-related. Ms. Fields stated that as with the previous comment regarding PAHs, comparable background samples cannot be collected for this site; therefore, we will proceed as if the PAHs may be site related and treated as such in order to complete the risk assessment.

This concluded the discussion of specific comments on the RI/FS. Mr. Gelman then outlined the path forward for the RI/FS. First, Parsons would provide a list of proposed surrogates to Mr. Podowski to review on February 13, 2006. Additionally, Ms. Massenburg stated that the parameters to be used to assess the exposure for a muskrat (which is to be used as a surrogate species for a beaver) be included as an attachment to the meeting minutes and that Larry Antonelli with Ohio EPA needed to be copied on the meeting minutes. Mr. Mencin stated that as it now stands; CRS is to have the final RI/FS to EPA by March 3, 2006. Ms. Massenburg stated that if this deadline cannot be met, then the agency would be amenable to extending the deadline for an additional two weeks. Mr. Mencin agreed that CRS would try to meet the March 3, 2006 deadline but would let the EPA know if an extension might be necessary.

The meeting concluded at approximately 11:15 am.